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SOUTHERN PINE BEETLE POSTSUPPRESSION EVALUATION FOR MISSISSIPPI NATIONAL FORESTS

SOUTHEASTERN AREA, STATE AND PRIVATE FORESTRY
USDA FOREST SERVICE, ATLANTA, GA. 30367

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SOUTHERN PINE BEETLE POSTSUPPRESSION EVALUATION FOR MISSISSIPPI NATIONAL FORESTS

by

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INTRODUCTION

Projects to control southern pine beetle, Dendroctonus frontalis Zimm., were conducted on the Tombigbee, Holly Springs, Bienville, and Homochitto NF's in FY 80.

Information for this evaluation has been provided by the Southern Pine Beetle Information System (SPBIS). This was the first year that all districts with Forest Pest Management (FPM) funded SPB suppression projects have reported their control efforts on SPBIS. Consequently, inconsistencies in the data have occurred. At this time, efforts are being made to clarify the instructions and develop a training program which should minimize these errors.

TOMBIGBEE NF

Targets

Targets designated were 1,795 MBF of timber salvaged and 1,258 MBF to be protected (Stein, 1979a).

Results & Discussion

Volume salvaged--

SPB project control salvage essentially equalled the target. A total of 847 MBF and 1,536 CCF (922 MBF) was salvaged. Total MBF

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salvaged was 1,769 compared to a target of 1,795 MBF.

Volume protected--

A total of 3,667 MBF and 1,892 CCF (1,135 MBF) was protected. Total MBF protected was 4,802 or 3.9 times greater than the target of 1,258 MBF.

Presuppression flights--

Ten presuppression flights were flown covering an estimated 763,886 acres. At least one flight a month was conducted during the summer, so aerial surveillance has been adequate.

A total of 131 SPB spots was located on the Tombigbee NF in FY 80. A total of 104 spots was salvaged, 7 spots were treated by cut-and-leave, and none were chemically treated. Twenty spots were not treated because they went inactive.

Surveys found no spots larger than 50 trees in FY 80. Spots were distributed in the following size classes based on the number of red and fading trees:

Size Class	# Spots
1-25	120
26-50	6
51-75	2
76-100	0
> 100	3

Contrary to FPM predictions, SPB activity decreased substantially by mid-summer.

On the average, large spots were ground checked before small spots. This is an excellent practice since large spots are more likely to grow larger and quicker than small spots.

Approximately 75% of the time period for removal of a SPB spot was between sale preparation and suppression. Therefore, most of the delay in controlling a spot was due to logging operators. This is probably a reflection of poor market conditions which hindered SPB salvage operations on the Tombigbee NF this year.

HOLLY SPRINGS NF

Targets

Targets designated were 3,097 MBF of timber salvaged and 1,216 MBF of timber to be protected (Connor, 1979b).

Results & Discussion

Volume salvaged--

The volume salvaged during the SPB suppression project achieved 86% of the designated target. There were 1,634 MBF of sawtimber and 1,743 CCF (1,046 MBF) of pulpwood removed for a total of 2,680 MBF (3,097 MBF targeted). Problems with wet weather and a saturated pulpwood market contributed to not meeting the target.

Volume protected--

There were 1,518 MBF of sawtimber and 922 CCF (553 MBF) of pulpwood totaling 2,440 MBF of timber protected. This figure more than doubled the targeted volume of 1,216 MBF.

Presuppression flights--

There were 6 flights made covering an estimated 749,274 acres. A minimum of one flight was made each month from May through September, thus, aerial surveillance was sufficient.

There were a total of 69 spots treated. Sixty-one of these spots were removed by salvage, 5 were treated by cut-and-leave, and 3 were controlled by a combination of cut-and-leave and chemical treatment. There were only 3 breakouts reported. These were probably due to excessive operator delays before salvaging. The spots were re-marked and rapidly suppressed. Following is a list of the number of SPB spots by size class based on the number of red and fading trees:

Size Class	# Spots
1-25	27
25-50	24
51-75	6
76-100	5
> 100	7

On the average, large spots were ground checked first. This is an excellent practice as spot growth potential is greater in large spots. District personnel generally ground checked the larger spots within 10 days.

The majority (75%) of the long delay between the aerial detection flight and spot suppression was due to the logging operators. Again this is probably a reflection of wet weather and poor market conditions which hindered SPB salvage operations until early summer on the Holly Springs NF.

HOMOCHITTO NF

Homochitto RD

Targets

Targets designated were 1,045 MBF of timber salvaged and 440 MBF to be protected (Connor, 1979a).

Results & Discussion

Volume salvaged--

SPB project control salvage was 900 MBF. The Homochitto RD began reporting on SPBIS May 1, 1980. SPBIS showed a total of 241 MBF was salvaged from May 7 - September 30, 1980.

Volume protected--

Only SPB spots reported on SPBIS are used to compute volume protected. SPBIS reported a total of 100 MBF protected. If the assumption is made that spot size class was uniform throughout the year, an estimate of total volume protected can be made. Approximately 25% of the total volume removed was reported on SPBIS (241 MBF/900 MBF). Therefore, only about 25% of the volume protected (100 MBF) was reported providing an estimate of 400 MBF protected for the entire year.

Presuppression flights--

Five flights were flown covering an estimated 532,000 acres. At least one flight a month was conducted during the summer, so aerial surveillance was adequate.

A total of 87 SPB spots was located on the Homochitto RD from May 1 to September 30, 1980. Eighty-three spots were active and 4 were inactive.

SPB activity decreased considerably by mid-summer. No spots were placed in size classes larger than 50 red and fading trees. Six spots were in size class 26-50 and 81 spots were in class 1-25.

The Homochitto RD has not had a problem obtaining salvage operators. In fact, many spots are first located from the ground by salvagers (46 of the 87 spots on the forest were located by ground surveys). Only two problems have occurred in relation to salvagers: 1) the lack of a pulpwood market and 2) getting salvagers to drop trees toward the center of the spot. Neither of these created a problem this year since only 2 breakouts were reported.

The Homochitto RD did an excellent job in removing SPB spots quickly. The average time from presuppression to suppression for all spots was only 11 days.

Bude RD

Targets

No targets were established due to the small number of spots found at the time of the biological evaluation (Connor, 1979a). It was recommended that aerial surveillance be conducted regularly so any increase in SPB activity could be quickly discovered.

Results & Discussion

Volume salvaged--

Total volume salvaged was 1,310 MBF.

Volume protected--

Due to limited information this figure was not available.

Presuppression flights--

A total of 3 flights were flown covering an estimated 271,000 acres.

SPB activity declined by mid-summer. The biological evaluation in September 1980 (Connor and Nettleton, 1980) found Ips spp. to be an important cause of mortality.

The Bude RD did not have a problem removing SPB spots during 1980.

BIENVILLE NF

Bienville RD

Targets

Targets designated were 1,866 MBF to be salvaged and 871 MBF to be protected (Stein, 1979b).

Results & Discussion

Volume salvaged--

SPB project control salvage was 2,381 MBF and 7,251 CCF (4,351 MBF). A total of 6,732 MBF was salvaged compared to a target of 1,866 MBF.

Wet weather prevented salvaging and allowed SPB spots to grow larger than would have been the case during dry weather. However, this only accounts for some of the difference between salvage and target volumes. The remainder is accounted for by Forest Pest Management's low predictions for SPB losses on this forest.

Volume protected--

A total of 1,134 MBF and 19,973 CCF (11,983 MBF) was protected. Total MBF protected was 13,117 MBF compared to a target of 871 MBF. This difference is again accounted for by weather and low FPM predictions since larger spots have greater volumes protected.

Presuppression flights--

Nine flights were flown covering 765,000 acres. At least one flight a month was conducted during the summer, so aerial surveillance has been adequate.

A total of 250 spots was reported on the Bienville NF. One spot was not treated because it went inactive. The remaining 249 spots were salvaged. No spots were treated with chemicals or cut-and-leave. No breakouts were recorded. Spots were in the following size classes based on the number of red and fading trees:

Size Class	# Spots
1-25	122
26-50	61
51-75	29
76-100	16
> 100	22

Approximately 85% of the time period for removal of a SPB spot was between sale preparation and suppression. Therefore, most of the delay in controlling a spot was due to logging operators. This is probably a reflection of wet weather which hindered SPB salvage operations until early summer on the Bienville NF.

Strong River RD

Targets

Targets designated were 524 MBF of timber salvaged and 103 MBF of timber protected (Stein, 1979b).

Results & Discussion

Volume salvaged--

The SPB project control salvage exceeded the target by 15.8 times. The volume salvaged was 2,216 MBF of sawtimber and 29,823 CCF (6,082 MBF) of pulpwood for a total of 8,298 MBF (524 MBF targeted). SPB volume loss predictions made by FPM for FY 80 were obviously too low.

Volume protected--

Volume protected figures were not calculated. However, due to the large volume of timber salvaged, it is felt that the volume protected easily exceeded the target.

Presuppression flights--

Seven flights were made covering an estimated 635,110 acres. There was a minimum of one flight each month from May through September, therefore, aerial surveillance was adequate.

A total of 171 spots was treated on the Strong River RD. There were no breakouts reported and all spots were controlled by salvage cutting.

Aerial surveys found only one SPB spot larger than 50 trees. Spots were distributed in the following size classes according to the number of red and fading trees during the presuppression flight:

Size Class	# Spots
1-25	157
26-50	13
51-75	0
76-100	0
> 100	1

SPB activity decreased dramatically toward the end of FY 80. The final presuppression flight only detected SPB spots less than 5 trees.

The Strong River RD did an excellent job in rapidly salvaging the SPB spots. There was only an average of 25 days elapsed between the presuppression

flight and suppression date. The majority of this period (60%) was the time required to get salvage operators to the spots once they had been sale prepped.

Summary

SPB activity was lower than FPM's prediction on the Homochitto RD. SPB losses were greater than FPM predictions on the Strong River and Bienville RD's.

The biggest problems encountered in salvage operations were: 1) poor markets which reduced the amount of SPB killed timber salvaged and 2) wet weather which delayed timber salvaging on some districts.

As noted in the introduction, this was the first year a large number of forests reported on the Southern Pine Beetle Information System (SPBIS), and inconsistencies were found in the data. At this time, FPM is working on a method for postsuppression evaluations that will be more comprehensive than those previously written. Combined with this is the necessity to develop the Southern Pine Beetle Information System into a meaningful and timely management tool for district and SO personnel. Within the next few months FPM entomologists will be visiting with SO and district personnel to solicite comments about the utility of SPBIS. Any comments would be greatly appreciated.

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